

### REMARKS

Claims 1-22 are pending in the present application with claims 1-18 withdrawn from consideration. Accordingly, claims 19-22 are currently before the Examiner. Claim 19 is amended herein. Support for the amendments can be found on pages 16-17 of the application, as filed. Favorable consideration of the pending claims is respectfully requested.

Claims 19-22 are rejected under 35 U.S.C. §103(a) as allegedly being obvious over U.S. Patent No. 6,004,967 to McMahon et al. (hereinafter “McMahon”) in view of U.S. Publication No. US2003/0230488 A1 to Lee et al. (hereinafter “Lee”) as evidenced by [www.wikipedia.com](http://www.wikipedia.com).

The Examiner asserts that McMahon discloses a method for determining the solubility of the pharmaceutical compound A1 in various excipients. The Examiner cites Table 4, which lists several excipients used for solubility testing of A1. The Examiner acknowledges, however, that McMahon fails to disclose or suggest conducting the experiments in an array format, as well as the step of dispensing less than 250 microliters of the excipient using a positive displacement pump. The Examiner cites Lee for such disclosure. In particular, the Examiner asserts that Lee discloses an apparatus for conducting solubility tests including a positive displacement pump. According to the Examiner, it would have been obvious for one of ordinary skill in the art to conduct the solubility test of McMahon using the apparatus of Lee. The Examiner further asserts that it would have been obvious to one of ordinary skill in the art to rank the compounds based on solubility because organizing test data is within the skill of one of ordinary skill in the art.

Applicants have amended claim 19 herein to further define the invention. In particular, amended claim 19 recites that a positive displacement pump is used to dispense a first liquid excipient into a least a first well, a second and different liquid excipient into at least a second well and the first and second liquid excipients into at least a third well to form a mixture of the two excipients in the third well. As recited in amended step (c), the samples are ranked by the amount of compound-of-interest dissolved “to determine the synergistic effect of mixtures of excipients on the solubility of the compounds-of-interest.”

More specifically, amended claim 19 uses different liquid excipients alone and in combination to determine if there are synergistic effects present on solubility. The application describes how the screening methods of the present invention can be used to determine the synergistic effects of mixtures of excipients on the solubility of the compounds-of-interest. Pages 16-17 of the application explain that by testing different excipients alone and in various combinations, it can be determined which mixtures of excipients yield unexpectedly high or low solubility. For instance, as explained on page 16 of the application:

... if the solubility of a compound-of-interest is 5 mg/mL in excipient A, the solubility of the compound-of-interest is 1 mg/mL in excipient B, and the solubility of the compound-of-interest in a mixture of excipients A and B is 15 mg/mL, the discovery of the mixture comprising A and B can be useful in the design of a formulation for the compound-of-interest. Similarly, a synergistic effect which decreases the solubility can also be of particular importance.

As further expressed on page 16 of the application, “[t]he ability to change the solubility of a compound-of-interest simply by changing the excipient mixture used is a powerful tool in the quest for improved formulations.”

Neither McMahon nor Lee discloses or suggests screening compositions containing a compound-of-interest to determine the existence of a synergistic effect of mixtures of excipients on the solubility of the compound, as recited in Applicants’ amended claim 19. McMahon is directed to methods and compositions for treating skin disorders with a quinazoline derivative. McMahon merely lists the solubility of one of its compounds individually in several excipients, and contains no disclosure of relevance to Applicants’ amended method claims. Lee simply discloses the preparation of microfluidic devices for the application of rapid electrophoretic separation. Thus, Lee also contains no disclosure of relevance to the screening method recited in Applicants’ amended claims. Therefore, the combination of McMahon and Lee fails to render Applicants’ amended claims *prima facie* obvious.

In view thereof, Applicants respectfully submit that amended claim 19, and claims 20-22 which depend therefrom, are patentable over McMahon and Lee, each taken alone

or in combination. Reconsideration and withdrawal of the Section 103 rejection is respectfully requested.

Respectfully submitted,

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